

METHOD AND APPARATUS FOR INTRODUCTION OF  
SOLID PRECURSORS AND REACTANTS INTO A  
SUPERCritical FLUID REACTOR

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ABSTRACT OF THE DISCLOSURE

The present invention pertains to apparatus and methods for introduction of solid precursors and reactants into a supercritical fluid reactor. Solids are dissolved in supercritical fluid solvents in generator apparatus separate from the supercritical fluid reactor. Such apparatus preferably generate saturated solutions of solid precursors via 10 recirculation of supercritical fluids through a vessel containing the solid precursors. Supercritical solutions of the solids are introduced into the reactor, which itself is charged with a supercritical fluid. Supercritical conditions are maintained during the delivery of the dissolved precursor to the reactor. Recirculation of supercritical precursor solutions through the reactor may or may not be implemented in methods of 15 the invention. Methods of the invention are particularly well suited for integrated circuit fabrication, where films are deposited on wafers under supercritical conditions.